

IN THE CLAIMS

1. (Canceled) A Positive Temperature Coefficient - (PTC) thermistor having a safety structure for preventing continuous breakage, comprising:

a casing made of a heat-resistant, insulating and nonflammable material;

a PTC element provided with electrodes formed by coating both sides of a coin-shaped body formed of barium titanate ceramic as a chief ingredient with a conducting material, such as silver;

an insulation holder adopted to fixedly hold the PTC element so that the PTC element is stably accommodated in an inner space of the casing;

two conductive tap terminals accommodated in the casing;

two spring terminals each connected to the tap terminals, each bent symmetrically and oppositely and each brought into contact with the electrodes of the PTC element with the PTC element being disposed therebetween; and

a cap provided with holes formed at positions brought into contact with the tap terminals, and two insulation walls extended from a bottom of the cap;

wherein a weak portion is formed in a portion of each of the spring terminals connected to the tap terminals so as both to allow a current to be applied to the PTC element while connecting with the PTC element and to act as a fuse that is cut off at a time of inflow of an overcurrent.

2. (Canceled) The PTC thermistor as set forth in claim 1, wherein the weak

portion formed in the portion of each of the spring terminals is integrated with the spring terminals using a same material as the spring terminals.

3. (Canceled) The PTC thermistor as set forth in claim 1 or 2, wherein the weak portion formed in the portion of each of the spring terminals is formed at one or more locations.

4. (Canceled) The PTC thermistor as set forth in any of claims 1 to 3, wherein the weak portion is not formed in each of the spring terminals, but formed in each of the tap terminals.

5. (Canceled) The PTC thermistor as set forth in any of claims 1 to 4, wherein the weak portion is defined by an angled or a rounded notch.

6. (Canceled) The PTC thermistor as set forth in any of claims 1 to 5, wherein the weak portion is formed so that a first edge is made weak by cutting out a second edge, or a center portion is made weak by cutting out both edges.

7. (Canceled) The PTC thermistor as set forth in any of claims 1 to 6, wherein the weak portion is formed in another portion of each of the spring terminals or the tap terminals where a forming process is easily performed.

8. (Canceled) The PTC thermistor as set forth in any of claims 1 to 7, wherein the weak portion is formed to have a size t ranging from 0.1 nm to 0.8 nm so as to act as a fuse and allow the current to flow therethrough without hindrance.

9. (New) A Positive Temperature Coefficient (PTC) thermistor having a safety structure for preventing continuous breakage, comprising:

- a casing made of a heat-resistant, insulating and nonflammable material;

- a PTC element provided with electrodes formed by coating both sides of a coin-shaped body formed of barium titanate ceramic as a chief ingredient with a conducting material, such as silver;

- an insulation holder adapted to fixedly hold the PTC element so that the PTC element is stably accommodated in an inner space of the casing;

- two conductive tap terminals accommodated in the casing;

- two spring terminals connected to the tap terminals, respectively, the spring terminals being bent symmetrically and oppositely, and the spring terminals being brought into contact with the electrodes of the PTC element, with the PTC element being disposed therebetween; and

- a cap provided with holes formed at positions brought into contact with the tap terminals, and two insulation walls extended from a bottom of the cap;

wherein a weak portion is formed in a portion of each of the spring terminals connected to the tap terminals so as to allow current to be applied to the PTC element through each spring terminal in contact with the PTC element and to function as a fuse

that is cut off by short-circuit surge current generated at a time of breakage of the PTC element attributable to thermal and electrical stress, the weak portion is integrated with each spring terminal, and a side of each spring terminal is connected to each of the tap terminals by a rivet.

10. (New) The PTC thermistor as set forth in claim 9, wherein the weak portion is formed in the portion of each of the spring terminals that does not come into contact with the PTC element and is not influenced by force when the spring terminal is seated, so that cutting and damage can be prevented.

11. (New) The PTC thermistor as set forth in claim 9, wherein the weak portion, which is formed in the portion of each of the spring terminals, is angled.

12. (New) The PTC thermistor as set forth in claim 11, wherein the weak portion is not only angled, but is also rounded at an apex thereof to reinforce the portion of the spring terminal where the weak portion is formed.

13. (New) The PTC thermistor as set forth in claim 9, wherein the weak portion is formed in such a way that a first edge is made weak by cutting out a portion of a second edge, or a center portion is made weak by cutting out portions of both edges.